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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,300

01/25/2006

Ryo Suzuki

OGOSH42USA

2014

270 7590 07/02/2009

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EXAMINER

LI, JUN

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

07/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,300	Applicant(s) SUZUKI, RYO	
	Examiner JUN LI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/18/2009 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. **Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (JP09-260139) in view of Bates *et al.* (1992, Solid State Ionics, 52:235-242) and Watanabe (JP09-316630).**

Takeda teaches a perovskite composition $\text{La}_{1-x}\text{A}_x\text{MnO}_z$ wherein A can be Ca, Ba or Sr and $0.05 \leq x \leq 0.5$, $2.7 \leq z \leq 3$ (Clm 1-3), which read onto the recited composition in the instant claim. Takeda further teaches a sputtering target such as a thin film can be formed by this perovskite composition via a sputtering technique (abstract, [00014]) and the crystal size of this compound is 10nm-100 μm ([0007]) for a needed electrical resistance and magneto-resistive effect. It is to be noted that the range of x and z overlaps with the range of x and α in the instant claim and the crystal size also overlaps

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with the recited size in the claim, thus render a prima facie obviousness (See § MPEP 2144.05 [R-5] I).

Takeda is silent about the specific recited resistivity and relative density, and purity.

Bates teaches a perovskite composition with formula such as $\text{La}_{1-x}\text{Sr}_x\text{CrO}_3$, $\text{Y}_{1-x}\text{Sr}_x\text{CrO}_3$ (where $x=0$) (abstract, line 7 and Fig 2, page 237), $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$ (page 236 last paragraph line 7) having a particle size 1-100nm (abstract, line 3), a density greater than 95% and 98% (page 237, under section 3 Air-sintering of chromites, first paragraph, line 8-9; first paragraph under section 3.2 and Fig 2; First line, page 239); a resistivity much less than $10 \Omega\text{m}$ (converted from electrical conductivity of Fig 6-8). Bates further discloses electrical properties of the manganites are dependent upon processing conditions, grain size and /or uniform compositions (page 240 right column second paragraph). Bates also discloses particle size, crystalline structure and surface area of manganite particles can be controlled (page 236 last paragraph).

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt probable processing condition to obtain a desired resistivity as shown by Bates to improve the sputtering target of Takeda because resistivity is a desired property and one of ordinary skill in the art can obtain a desired resistivity for this sputtering target's intended usage in solid oxide fuel cell as suggested by Bates (Introduction page 235).

With respect to the recited density and purity, Wantanabe teaches a sputtering target can be made with a relative density of 95-99%, and purity regulated $>4\text{N}$ and

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particle size less than 20 μm to prevent target cracking (abstract, claim 1,[0006], [0012]) via controlling pressure and sintering conditions. Wantanabe further discloses the sintered product is made to have a purity more than 4N or higher in order to prevent the growth of the grains in said sintered compact ([0011]) of the sputtering target while a high density sintered compact is good for making a high density sputtering target without cracking ([0004]-[0010]).

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt the high purity and high density of the sputtering target as shown by Wantanabe to improve the sputtering target made from composition of $\text{La}_{1-x}\text{A}_x\text{MnO}_3$ as shown by Takeda in view of Bates. One of ordinary skill in the art would have been motivated to do so because controlling the sputtering target properties such as density, purity, particle sizes can minimize the cracking formation during a high power and high film formation sputtering process as indicated by Wantanabe ([0003],[0006], abstract, Clm1-3).

Response to Arguments

Applicant's arguments filed on 06/18/2009 with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. In response to applicant's arguments, it is to be noted that recited composition of the sputtering target having a general formula $\text{La}_{1-x}\text{A}_x\text{Mn}_y\text{O}_z$ therein with $y=1.0$ (abstract, claim 2) thus Takeda does not teaching away from the recited composition. In addition, Bates also teaches the recited composition as discussed above. As for the recited properties,

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Takeda teaches similar crystal size as in the instant claim wherein crystal size is correlated with the recited resistivity as shown by Bates wherein Bates also discloses maganites particle size, crystalline structure, surface area can be controlled.

Furthermore, the purity can be obtained via conventional purification method by one of ordinary skill in the art while the density is an expected feature associated with the recited composition absent evidence to the contrary. Bates also teaches similar pervoskite chromites compound density can be manipulated, thus similar pervoskite compound such as maganites density can be controlled via similar method for a desired density for intended usage as solid oxide fuel cell too. Furthermore, Wantanabe discloses the high purity, high density will help preventing crack formation for a high power (such as DC) sputtering target as discussed above. In addition, DC, RF sputtering target are not claimed in the instant claims while a sputtering target is disclosed in the applied references. Thus the claimed subject matter is not patentable distinct from the prior arts.

Conclusion

All the claims are rejected for the reasons of the record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUN LI whose telephone number is (571)270-5858. The examiner can normally be reached on Monday-Friday, 8:00am EST-5:00 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUN LI/

Examiner, Art Unit 1793

/J. L./

06/29/2009

/Stanley Silverman/

Supervisory Patent Examiner, Art Unit 1793